OSWER Innovations Pilot

Measuring the Environmental Benefits of Federal Electronic Equipment Management Practices

The Office of Solid Waste and Emergency Response (OSWER) initiated a series of innovative pilots to test new ideas and strategies for environmental and public health protection. A small amount of money is set aside to fund creative approaches to waste minimization, energy recovery, recycling, land revitalization, and homeland security that may be replicated across various sectors, industries, communities, and regions. We hope these pilots will pave the way for programmatic and policy recommendations by demonstrating the environmental and economic benefits of creative, innovative approaches to the difficult environmental challenges we face today.

BACKGROUND

The U.S. federal government is the world's largest single purchaser of consumer electronics. With 1.8 million employees, the federal government represents roughly seven percent of the total world market for computers. The average life cycle of federally owned computers is three years. This equipment contains components that can be recycled or reused in the current marketplace. Electronics represent serious environmental costs and opportunities since they contain hazardous substances such as lead, mercury, chromium, and cadmium and precious metals such as gold, silver, and palladium.

The Federal Electronics Challenge (FEC) challenges federal facilities to purchase greener electronics products and manage their electronics in an environmentally sound manner. The FEC's goal is to educate people within the federal government about how to best manage older electronics. However, the impacts on the environment and the economy from electronic recycling have not been adequately measured. While there are tools for calculating the environmental benefits of recycling traditional materials (paper, glass, plastics, organics), none of these tools calculate the benefits of purchasing, using, and managing electronic equipment in an environmentally sound manner.

PILOT APPROACH

U.S. EPA, in partnership with the General Services Administration, Department of Defense, Office of the Federal Executive, and the Federal Network for Sustainability, will develop a calculator to quantify the benefits of environmentally sound management of federal electronic equipment. The pilot will evaluate existing environmental benefits calculators to determine what information is necessary to develop meaningful measures and how to incorporate electronic equipment into one of them. Information will be collected from FEC facilities, including material recovery and disposal data. A survey of current research on the life cycle of electronic products will be conducted.

The pilot will work with approximately 20 federal facilities over a one-year period. The lessons learned from this pilot will be incorporated into FEC resources and used to update outreach tools on the FEC website. All tools developed during the pilot will be available to other federal, state, and local facilities.

INNOVATION

While there are online calculators and other tools to assess the environmental benefits of recycling traditional commodities, there is no tool to assess the environmental benefits of purchasing, operating, reusing, and recycling electronics in an environmentally sound manner. Ultimately, the development of this assessment tool will help translate the successes of sound electronics management into quantifiable benefits to the environment. Beyond the pilot phase, a major goal of the project is to expand the FEC to federal facilities in other EPA Regions.

BENEFITS

The expected benefits are to reduce life-cycle impacts of electronic equipment, reduce raw material use, increase recovery rates, expand the recycling infrastructure, and reduce the volume and toxicity of electronic equipment waste. The calculator will quantify environmental benefits in terms that everyone can understand. For example, by recycling more computer equipment, the pounds of lead diverted from landfills can be measured and interpreted so that the benefits are easy to see.

CONTACTS

Viccy Salazar, EPA Region 10, (206) 553-1060

For additional information, visit the EPA OSWER Innovations web site at: www.epa.gov/oswer/iwg

Link to the Federal Electronics Challenge web site at http://www.federalelectronicschallenge.net

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